pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Wastewater Supplement to Phase 2 Watershed Implementation Plan
Revised, October 15, 2014

Section 7 of the Pennsylvania Chesapeake Watershed Implementation Plan, Phase 2 (Phase 2 WIP) describes Pennsylvania's strategy for reducing nutrients to the Chesapeake Bay from wastewater facilities. This supplement to Section 7 (Wastewater Supplement) of the Phase 2 WIP provides an update on implementation of the Chesapeake Bay Total Maximum Daily Load (TMDL) for point sources and a discussion of adjustments to the permitting strategy as a result of implementation experience.

Definitions

Several definitions are provided to clarify the terminology in this document. These definitions will be used for NPDES permits, although the Department of Environmental Protection (DEP) reserves the right to modify the definitions in accordance with Section IV.H, below.

Annual Net Mass Load (lbs): The sum of Monthly Total Mass Loads for one year beginning October 1st and ending September 30th, adjusted for credits sold and applied and offsets applied. Annual Net Mass Loads are compared to Cap Loads to determine compliance.

Cap Load (lbs): The mass load of a pollutant authorized by an NPDES permit. Cap Loads for TN and TP are implemented in NPDES permits by the establishment of Annual Net Mass Load limits. The term "Net" is used to recognize that Credits and Offsets may be used to comply with the limits. The Annual Net Mass Load must be less than or equal to the Cap Load to achieve compliance.

Certification: Written approval by DEP of a proposed pollutant reduction activity to generate credits before the credits are verified and registered to be used to comply with NPDES permit effluent limitations.

Compliance Year: The year-long period starting October 1st and ending September 30th. The Compliance Year will be named for the year in which it ends. For example, the period of October 1, 2012 through September 30, 2013 is compliance year 2013.

Credit: The tradable unit of compliance that corresponds with a unit of reduction of a pollutant as recognized by DEP which, when certified, verified and registered, may be used to comply with NPDES permit effluent limitations.

Delivery Ratio: A ratio that compensates for the natural attenuation of a pollutant as it travels in water before it reaches a defined compliance point.

Offset: The pollutant load reduction measured in pounds (lbs) that is created by an action, activity or technology which when approved by DEP may be used to comply with NPDES permit effluent limitations, conditions and stipulations under 25 Pa. Code Chapter 92a (relating to NPDES permitting, monitoring and compliance.) The offset may only be used by the NPDES permittee that DEP determines is associated with the load reduction achieved by the action, activity or technology.

Registration: An accounting mechanism used by DEP to track certified and verified credits before they may be used to comply with NPDES permit effluent limitations.

Total Mass Load (lbs):

Monthly Total Mass Load = The sum of the actual daily discharge loads for TN and TP (lbs/day) divided by the number of samples per month, multiplied by the number of days in the month. The daily discharge load for TN and TP (lbs/day) equals the average daily flow (MGD) on the day of sampling, multiplied by that day's sample concentration for TN and TP (mg/l), multiplied by 8.345.

Annual Total Mass Load = The sum of the Monthly Total Mass Loads for one year beginning October 1st and ending September 30th.

Total Nitrogen: For concentration and load, Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO_2+NO_3-N), where TKN and NO_2+NO_3-N are measured in the same sample.

Truing Period: The time provided following each Compliance Year for a permittee to comply with Cap Loads through the application of Credits and Offsets. The Truing Period will start on October 1st and end on November 28th of the same calendar year, unless DEP extends this period. During this period, compliance for the specified year may be achieved by using registered Credits that were generated during that Compliance Year. For example, Credits that are used to achieve compliance in Compliance Year 2012 must have been generated during Compliance Year 2012. Approved Offsets that have been generated may also be applied during the Truing Period.

Verification: Assurance that the verification plan contained in a certification, permit or other approval issued by DEP has been implemented. Verification is required prior to registration of the credits for use in an NPDES permit to comply with NPDES permit effluent limitations.

I. Significant Dischargers

A. Sewage

1. Aggregate Waste Load Allocation

The Chesapeake Bay TMDL specifies individual wasteload allocations (WLAs) for 183 "significant" sewage treatment facilities. These facilities are categorized into three phases. The aggregate WLAs for the significant sewage discharge group are as follows (all WLAs listed in this section are edge of segment (EOS) loads):

- 10,635,812 lbs/yr TN; and
- 1,386,401 lbs/yr TP.

These allocations had been further divided in Pennsylvania into the three phases as follows:

Phase	No. Facilities	TN WLA (lbs/yr)	TP WLA (lbs/yr)
1	63	8,150,030	1,059,554
2	47	1,252,854	162,768
3	73	1,232,928	164,079

It is noted that there are errors in Appendix Q of the TMDL for several facilities, in which the WLAs are double or triple what they should be:

Phase 1 WLA Errors

- Berwick Municipal Authority (PA0023248): additional 92,198 lbs/yr TN and 8,913 lbs/yr TP
- Danville Municipal Authority (PA0023531): additional 66,118 lbs/yr TN and 8,816 lbs/yr TP
- Dillsburg Borough Authority (PA0024431): additional 31,345 lbs/yr TN and 3,726 lbs/yr TP
- Hanover Borough (PA0026875): additional 83,441 lbs/yr TN and 10,959 lbs/yr TP
- Lower Allen Township Authority (PA0027189): additional 114,154 lbs/yr TN and 15,221 lbs/yr TP
- Shippensburg Borough Authority (PA0030643): additional 60,273 lbs/yr TN and 8,036 lbs/yr TP

Phase 2 WLA Errors

- Mt. Carmel Municipal Authority (PA0020466): additional 82,190 lbs/yr TN and 10,958 lbs/yr TP

- Moshannon Valley Authority (PA0037966): additional 15,777 lbs/yr TN and 3,476 lbs/yr TP
- KBM Regional Authority (PA0064025): additional 13,637 lbs/yr TN and 1,705 lbs/yr TP

Phase 3 WLA Errors

- Lackawanna River Basin Sewer Authority (PA0027081): additional 25,572 lbs/yr TN and 3,410 lbs/yr TP
- Little Washington Wastewater Co. (PA0061590): additional 24,073 lbs/yr TN and 3,210 lbs/yr TP
- Gregg Township (PA0114821): additional 23,013 lbs/yr TN and 3,068 lbs/yr TP

It is assumed that the TMDL will be revised to correct these WLA errors. When this revision is complete, the following revised WLAs will apply to PA significant sewage treatment facilities:

Phase	No. Facilities	TN WLA (lbs/yr)	TP WLA (lbs/yr)
1	63	7,702,301	1,003,883
2	46	1,132,118	145,411
3	73	1,160,270	154,391

The significant sewage aggregate WLAs are therefore 9,994,689 lbs/yr TN and 1,303,685 lbs/yr TP.

2. TMDL Implementation

The following is a permitting status report for the significant sewage treatment facilities:

- **Phase 1** – of the 63 facilities in Phase 1, all have Annual Net Mass Load limitations (Cap Loads) in their permits (see Table 7-1). Permitting for Phase 1 is complete, and the following total Cap Loads have been established for Phase 1 facilities:

  - 7,741,146 lbs/yr TN (38,845 lbs/yr greater than total revised WLA for Phase 1)
  - 1,008,004 lbs/yr TP (4,121 lbs/yr greater than total revised WLA for Phase 1)

  The difference is a result of Offsets incorporated into Cap Loads for the connection of on-lot sewage systems and modifications to design flows during the initial phase of permitting; to account for this, 38,845 lbs/yr TN will be moved from the nonpoint source load allocation for septic systems to the significant sewage aggregate WLA, and 4,121 lbs/yr TP will be moved from the non-significant aggregate WLA to the significant sewage aggregate WLA.

- **Phase 2** – of the 47 facilities on the original Phase 2 list, one has been removed – New Morgan Borough STP (PA0088048). This facility has planning approval to expand to 0.5 MGD, but has not submitted a Water Quality Management (WQM) permit application to construct upgraded facilities, and is currently discharging flows below the threshold for significant Chesapeake Bay dischargers (0.4 MGD). The submission of a WQM permit application and issuance of a WQM permit by DEP is required prior to an upgrade. New Morgan's WLAs of 9,132 lbs/yr TN and 1,218 lbs/yr TP will be moved from the Phase 2 aggregate WLAs to the non-significant aggregate WLAs.

  All 46 facilities that now comprise Phase 2 have Cap Loads in their permits (see Table 7-1). All facilities have a compliance start date no later than October 1, 2014 for the Cap Loads, and the following total Cap Loads have been established for Phase 2 facilities:

  - 1,137,040 lbs/yr TN (4,922 lbs/yr greater than total revised WLA for Phase 2)
  - 146,141 lbs/yr TP (730 lbs/yr greater than total revised WLA for Phase 2)

  The difference for TN is a result of Offsets incorporated into Cap Loads for the connection of on-lot sewage systems and the consolidation of a non-significant discharger into a Phase 2 facility (see footnote 3, below); to account for this, 7,903 lbs/yr TN will be moved from the non-point source load

allocation for septic systems to the significant sewage aggregate WLA, and 7,306 lbs/yr TN and 730 lbs/yr TP will be moved from the non-significant aggregate WLA to the significant sewage aggregate WLA.

- **Phase 3** – of the 73 facilities on the original Phase 3 list, 64 facilities have Cap Loads in their permits. All facilities have a compliance start date no later than October 1, 2014 for their Cap Loads.

  There have been several changes to Phase 3 since DEP's initial WIP. When facilities expand their design flow to greater than or equal to 0.4 MGD, DEP will place them into Phase 3. The following summarizes the changes:

  - Lower Paxton (PA0088633) will no longer be constructed (the municipality will conduct infiltration and inflow work in lieu of building the facility). Lower Paxton was slated to receive Cap Loads of 45,662 lbs/yr TN and 6,088 lbs/yr TP. These loads will be left in the Phase 3 aggregate load.

  - PA Department of Public Welfare (PA0029432) has reduced its design flow from 0.6 MGD to 0.395 MGD. As a result, this facility is no longer part of Phase 3, and Cap Loads were not established in its recently issued permit. This facility was projected to receive Cap Loads of 10,961 lbs/yr TN and 1,459 lbs/yr TP. These loads will be left in the Phase 3 aggregate load.

  - South Mountain Restoration Center (PA0029297) has reduced its design flow from 0.5 MGD to 0.395 MGD. As a result, this facility is no longer part of Phase 3. This facility was projected to receive Cap Loads of 9,136 lbs/yr TN and 1,217 lbs/yr TP. These loads will be left in the Phase 3 aggregate load.

  - Bonneauville Borough Authority (PA0028592) has expanded its design flow from 0.331 MGD to 0.55 MGD. A final permit was issued to this facility on October 30, 2006 with Cap Loads of 9,741 pounds/year TN and 1,218 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

  - Elizabethville Area Authority (PA0037737) has a design flow of 0.4 MGD, but was overlooked for the original Phase 3 list. It has been issued a final permit with Cap Loads of 7,481 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

  - ORD Sewer Authority (PA0228915) has a design flow of 0.4 MGD, but was overlooked for the original Phase 3 list. It has been issued a final permit with Cap Loads of 9,748 lbs/yr TN and 1,218 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

  - Newville Borough (PA0046221) is expanding to a design flow of 0.6 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

  - Williamstown Borough (PA0021491) is expanding to a design flow to 0.45 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

  - Woodward Township (PA0208922) has a design flow of 0.56 MGD, but was overlooked for the original Phase 3 list. A final permit amendment with Cap Loads has been issued on June 11, 2013. This facility was previously considered non-significant, and so its load has been moved from the non-significant aggregate load to the Phase 3 aggregate load.

- Hallstead-Great Bend Joint Sewer Authority (PA0060518) will be upgrading to a design flow of 0.5 MGD. This facility was originally part of Phase 4 (0.35 MGD). A draft permit amendment has been issued with Cap Loads of 9,741 lbs/yr TN and 1,218 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

- Leacock Township (PA0084212) will be upgrading to a design flow of 0.45 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

- Fredericksburg Sewer & Water Authority (PA0261670) is a new facility with a design flow of 0.433 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load.

- Glendale Valley Municipal Authority (PA0253812) is a proposed facility with a design flow of 0.3 MGD. A proposed permit amendment would increase the design flow to 0.45 MGD. The proposed Cap Loads are 7,808 lbs/yr TN and 1,041 lbs/yr TP. The Cap Loads were determined by using discharge concentrations of 6 mg/l for TN and 0.8 mg/l mg/l for TP and multiplying by the original design flow (0.3 MGD) and the addition of 0.1275 MGD of flow from the Glendale Yearound STP (PA0097705) that would be eliminated as a result of Glenndale Valley's expansion. This facility was previously considered non-significant, and so its load will be moved from the non-significant aggregate load to the Phase 3 aggregate load. As a result of this project, four non-significant sewage facilities will be eliminated: Glendale Yearound STP (PA0097705), Glendale School District (PA0097411), Matthews Mobile Home Park (PA0035262), and Noel Zimmerman WWTP (PA0204587).

As a result, Phase 3 now includes 80 facilities, 79 of which have Cap Loads in final permits (see Table 7-1).

The total Cap Loads established in final permits for Phase 3 facilities to date are as follows:

- 1,158,539 lbs/yr TN
- 150,969 lbs/yr TP

Table 7-1 presents the NPDES permits for significant sewage dischargers that have been issued to date with Cap Loads. The latest permit issuance date, expiration date, Cap Load compliance start date, TN and TP Cap Loads, and TN and TP Delivery Ratios are presented. In addition, if TN Offsets were incorporated into the TN Cap Loads when the permit was issued, the amount is shown; these Offsets will be removed from Cap Loads upon issuance of renewed permits to implement Section IV of this document (i.e., the facility may use offsets for compliance but may not register them as credits).

Table 7-1: Significant Chesapeake Bay Sewage NPDES Permits Issued

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0020036	3	Blossburg Borough	10/10/2012	9/30/2016	10/1/2012	7,306	-	974	0.474	0.436
PA0020214	3	Mount Union Borough	4/8/2011	4/30/2016	10/1/2013	20,091	-	2,679	0.88	0.436
PA0020249	3	Roaring Spring Borough	9/24/2013	9/30/2018	1/1/2016	12,785	-	1,705	0.88	0.436
PA0020273	2	Milton Regional Sewage Authority (1)	7/31/2009	7/31/2014	10/1/2009	80,040	17,575	8,329	0.941	0.436
PA0020320	1	Lititz Sewer Authority	2/5/2008	2/28/2013	10/1/2010	70,319	-	9,376	0.891	0.436
PA0020338	3	Kulpmont-Marion Heights Joint Municipal Authority	8/29/2011	8/31/2016	10/1/2011	9,132	-	1,218	0.871	0.436
PA0020486	1	Bellefonte Borough	1/30/2014	1/31/2019	10/1/2010	58,812	-	7,842	0.93	0.436
PA0020508	3	McConnellsburg Borough	6/15/2009	6/30/2014	10/1/2012	10,959	-	1,461	0.749	0.67
PA0020567	3	Northumberland Borough	4/1/2013	9/30/2016	10/1/2012	26,498	5,950	2,740	0.941	0.436
PA0020583	2	Middleburg Municipal Authority	4/12/2010	4/30/2015	10/1/2012	8,219	-	1,096	0.951	0.436
PA0020621	2	Waynesboro Borough	2/26/2010	2/28/2015	10/1/2013	29,223	-	3,896	0.819	0.67
PA0020664	1	Middletown Borough	2/25/2008	2/28/2013	10/1/2011	40,182	-	5,358	0.961	0.436
PA0020699	1	Montgomery Borough (2)	3/20/2013	3/31/2018	10/1/2011	15,525	-	2,070	0.941	0.436
PA0020800	3	White Deer Township	2/8/2011	2/29/2016	10/1/2011	10,959	-	1,461	0.941	0.436
PA0020818	2	Glen Rock Sewer Authority	3/11/2010	3/31/2015	10/1/2012	10,959	-	1,461	0.961	0.436
PA0020826	1	Dover Township Sewer Authority	2/6/2008	2/28/2013	10/1/2010	146,117	-	19,482	0.961	0.436
PA0020834	2	Franklin County Authority – Greencastle	8/23/2012	1/31/2015	10/1/2012	17,351	-	2,314	0.683	0.67
PA0020885	1	Mechanicsburg Borough Municipal Authority	6/29/2012	2/28/2013	10/1/2012	38,565	2,400	5,065	0.951	0.436
PA0020893	1	Manheim Borough Authority	1/17/2008	1/31/2013	10/1/2011	20,822	-	2,776	0.97	0.436
PA0020915	2	Pine Grove Borough Authority	8/16/2010	8/31/2015	10/1/2012	27,397	-	3,653	0.961	0.436
PA0020923	1	New Oxford Municipal Authority	2/7/2008	2/28/2013	10/1/2011	35,057	575	4,354	0.961	0.436
PA0021067	1	Mount Joy Borough	2/25/2008	2/28/2013	10/1/2010	27,945	-	3,726	0.97	0.436
PA0021229	3	Littlestown Borough	6/1/2012	6/30/2017	10/1/2014	18,265	-	2,435	0.627	0.67
PA0021237	2	Newport Borough Municipal Authority	4/19/2010	4/30/2015	10/1/14	7,306	-	974	0.951	0.436

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0021245	2	Duncannon Borough	4/23/2010	4/30/2015	10/1/2013	13,516	-	1,802	0.951	0.436
PA0021491	3	Williamstown Borough	4/7/2008	4/30/2013	10/1/2010	7,306	-	974	0.951	0.436
PA0021539	3	Williamsburg Borough	3/18/2011	3/31/2016	10/1/2013	7,306	-	974	0.88	0.436
PA0021563	3	Gettysburg Municipal Authority	7/16/2010	7/31/2015	10/1/2012	44,748	-	5,966	0.627	0.67
PA0021571	3	Marysville Municipal Authority	2/23/2012	2/28/2017	10/1/2012	22,831	-	3,044	0.951	0.436
PA0021644	2	Dover Borough	8/19/2009	8/31/2014	10/1/2010	7,306	-	974	0.961	0.436
PA0021687	1	Wellsboro Municipal Authority	1/11/2008	1/31/2013	10/1/2010	46,029	9,500	4,871	0.93	0.436
PA0021717	2	Marietta-Donegal Joint Authority	8/28/2012	1/31/2015	10/1/2012	13,698	-	1,826	0.97	0.436
PA0021806	2	Annville Township	4/23/2010	4/30/2015	10/1/2012	13,698	-	1,826	0.961	0.436
PA0021814	3	Mansfield Boro Municipal Authority	12/2/2011	12/31/2016	10/1/2012	23,744	-	3,166	0.474	0.436
PA0021865	2	Adamstown Borough Authority	1/5/2010	1/31/2015	10/1/2013	10,959	-	1,461	0.891	0.436
PA0021881	3	Westfield Borough	8/9/2010	8/31/2015	10/1/2010	8,402	-	1,120	0.474	0.436
PA0021890	1	New Holland Borough Authority	2/25/2008	2/28/2013	10/1/2012	24,475	-	3,263	0.891	0.436
PA0022209	1	Bedford Borough Municipal Authority	1/25/2008	1/31/2013	10/1/2010	27,397	-	3,653	0.897	0.436
PA0022535	3	Millersburg Borough Authority	1/21/2011	1/31/2016	10/1/2013	18,265	-	2,435	0.951	0.436
PA0023108	1	Elizabethtown Borough	2/8/2008	2/28/2013	10/1/2010	109,500	-	13,688	0.961	0.436
PA0023141	3	Hastings Area Sewer Authority	6/29/2012	6/30/2017	10/1/2016	10,959	-	1,461	0.836	0.436
PA0023183	3	Mt. Holly Springs Borough Authority	9/26/2012	7/31/2016	10/1/2013	10,959	-	1,461	0.961	0.436
PA0023248	1	Berwick Municipal Authority	1/11/2008	1/31/2013	10/1/2010	92,198	25,350	8,913	0.871	0.436
PA0023264	2	Twin Boroughs Sanitary Authority	3/17/2010	3/31/2015	10/1/2012	16,438	-	2,192	0.88	0.436
PA0023442	3	Wrightsville Borough Municipal Authority	8/15/2011	9/30/2016	10/1/2011	7,306	-	974	0.97	0.436
PA0023531	1	Danville Municipal Authority	1/11/2008	1/31/2013	10/1/2011	66,118	-	8,816	0.871	0.436
PA0023558	3	Ashland Borough	4/23/2012	4/30/2017	10/1/2013	23,744	-	3,166	0.951	0.436
PA0023736	3	Tri-Boro Municipal Authority	12/12/2011	12/31/2016	10/1/2013	9,132	-	1,218	0.495	0.436
PA0023744	1	Northeastern York County Sewer Authority	2/14/2008	2/28/2013	10/1/2010	46,535	13,050	4,627	0.961	0.436
PA0024040	1	Highspire Borough	2/7/2008	2/28/2013	10/1/2010	36,529	-	4,871	0.961	0.436

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PA0024139	3	Cumberland Township Municipal Authority (North)	1/25/2013	1/31/2018	10/1/2013	9,132	-	1,218	0.627	0.67
PA0024147	3	Cumberland Township Municipal Authority (South)	1/25/2013	1/31/2018	10/1/2013	11,872	-	1,583	0.627	0.67
PA0024325	2	Muncy Borough Municipal Authority	9/28/2012	9/30/2015	10/1/2011	25,570	-	3,409	0.941	0.436
PA0024384	2	North Middleton Township Authority	11/25/2009	11/30/2014	10/1/2012	22,120	5,225	2,253	0.951	0.436
PA0024406	2	Mt. Carmel Municipal Sewage Authority	1/12/2009	1/31/2014	10/1/2010	41,095	-	5,479	0.871	0.436
PA0024431	1	Dillsburg Borough Authority	2/7/2008	2/28/2013	10/1/2011	31,345	3,400	3,726	0.961	0.436
PA0024708	3	Union Township	2/24/2011	2/29/2016	10/1/2012	12,297	425	1,583	0.88	0.436
PA0024759	3	Curwensville Municipal Authority	2/26/2013	2/28/2018	10/1/2014	13,698	-	1,826	0.836	0.436
PA0024902	3	Upper Allen Township	10/25/2011	10/31/2016	10/1/2012	22,991	2,900	2,679	0.951	0.436
PA0025381	3	Saxton Borough Municipal Authority	5/27/2011	5/31/2016	10/1/2011	7,306	-	974	0.897	0.436
PA0025933	1	Lock Haven Borough	1/11/2008	1/31/2013	10/1/2011	90,192	21,700	9,132	0.93	0.436
PA0026051	1	Chambersburg Borough	2/14/2008	2/28/2013	10/1/2012	124,199		16,560	0.683	0.67
PA0026077	1	Carlisle Borough	3/31/2008	3/31/2013	10/1/2008	134,277	6,425	17,047	0.951	0.436
PA0026107	1	Wyoming Valley Sewer Authority	2/4/2008	2/28/2013	10/1/2010	584,467	-	77,929	0.871	0.436
PA0026123	2	Columbia Borough	1/27/2010	1/31/2015	10/1/2012	36,529	-	4,871	0.97	0.436
PA0026191	1	Huntingdon Borough	2/7/2008	2/28/2013	10/1/2011	73,058	-	9,741	0.88	0.436
PA0026239	1	University Area Joint Authority	5/24/2013	5/31/2018	10/1/2010	164,381	-	21,918	0.93	0.436
PA0026263	1	York City	1/30/2008	1/31/2013	10/1/2011	474,880	-	63,317	0.961	0.436
PA0026280	1	Lewistown Borough	11/12/2010	6/30/2015	10/1/2013	51,470	-	6,863	0.88	0.436
PA0026310	1	Clearfield Borough	1/11/2008	1/31/2013	10/1/2010	82,191	-	10,959	0.836	0.436
PA0026361	1	Lower Lackawanna Valley Sewer Authority	6/10/2013	6/30/2018	10/1/2010	109,588	-	14,612	0.733	0.436
PA0026441	1	Lemoyne Borough Municipal Authority [3]	12/7/2011	3/31/2014	10/1/2015	19,433	-	2,249	0.961	0.436
PA0026484	1	Derry Township Municipal Authority	1/28/2008	1/31/2013	10/1/2010	91,668	-	12,225	0.961	0.436
PA0026492	1	Scranton Sewer Authority	9/24/2012	9/30/2014	10/1/2013	365,292	-	48,706	0.733	0.436
PA0026557	1	Sunbury City Municipal Authority	1/18/2008	1/31/2013	10/1/2010	76,711	-	10,228	0.871	0.436

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0026620	3	Millersville Borough	12/17/2010	12/31/2015	10/1/2013	33,790	-	4,505	0.891	0.436
PA0026654	2	New Cumberland Borough Authority	1/31/2011	1/31/2016	10/1/2013	22,831	-	3,044	0.951	0.436
PA0026727	1	Tyrone Borough Sewer Authority	12/18/2013	12/31/2018	10/1/2011	164,381	-	21,918	0.88	0.436
PA0026735	1	Swatara Township	1/28/2008	1/31/2013	10/1/2011	115,367	300	15,342	0.961	0.436
PA0026743	1	Lancaster City	7/16/2010	7/31/2015	10/1/2007	620,348	1,300	77,381	0.891	0.436
PA0026808	1	Springettsbury Township	1/25/2008	1/31/2013	10/1/2010	273,969	-	36,529	0.961	0.436
PA0026875	1	Hanover Borough	10/1/2009	2/28/2013	10/1/2012	83,441	450	10,959	0.961	0.436
PA0026921	1	Greater Hazleton Municipal Authority	2/12/2008	2/28/2013	10/1/2011	216,739	-	27,092	0.871	0.436
PA0027014	1	Altoona City Authority – East	1/29/2008	1/31/2013	10/1/2012	146,117	-	19,482	0.88	0.436
PA0027022	1	Altoona City Authority – West	1/29/2008	1/31/2013	10/1/2011	164,381	-	21,918	0.88	0.436
PA0027049	1	Williamsport Sanitary Authority – West	2/15/2008	2/28/2013	10/1/2012	77,547	5,950	9,546	0.93	0.436
PA0027057	1	Williamsport Sanitary Authority – Central	2/15/2008	2/28/2013	10/1/2012	153,423	-	20,456	0.941	0.436
PA0027065	2	Lackawanna River Basin Sewer Authority	3/23/2009	3/31/2014	10/1/2011	109,587	-	14,612	0.733	0.436
PA0027081	3	Lackawanna River Basin Sewer Authority	3/23/2009	3/31/2014	10/1/2011	12,786	-	1,705	0.733	0.436
PA0027090	1	Lackawanna River Basin Sewer Authority	3/4/2009	3/31/2014	10/1/2011	127,852	-	17,047	0.733	0.436
PA0027171	1	Bloomsburg Municipal Authority	1/18/2008	1/31/2013	10/1/2010	78,855	500	10,447	0.871	0.436
PA0027189	1	Lower Allen Township Authority	12/10/2009	12/31/2014	10/1/2015	114,354	200	15,221	0.951	0.436
PA0027197	1	Harrisburg Sewerage Authority	12/4/2009	12/31/2014	10/1/2012	688,575	-	91,810	0.951	0.436
PA0027316	1	Lebanon City Authority	2/6/2008	2/28/2013	10/1/2012	146,117	-	19,482	0.961	0.436
PA0027324	1	Shamoken-Coal Township Joint Sanitary Authority	1/25/2008	1/31/2013	10/1/2012	127,852	-	17,047	0.871	0.436
PA0027405	1	Ephrata Borough Authority	1/17/2014	1/31/2019	10/1/2012	79,049	-	9,881	0.891	0.436
PA0027553	2	Pine Creek Municipal Authority	8/23/2011	8/31/2016	10/1/2011	23,744	-	3,166	0.93	0.436
PA0028088	3	Brown Township Municipal Authority	3/8/2011	3/31/2016	10/1/2014	10,959	-	1,461	0.88	0.436
PA0028142	1	Fort Indiantown Gap	9/8/2005	9/30/2010	10/1/2005	24,353	-	3,044	0.961	0.436

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0028266	3	Troy Borough	5/18/2012	12/31/2015	10/1/2011	7,306	-	974	0.7	0.436
PA0028347	3	Martinsburg Borough	3/24/2011	3/31/2016	10/1/2013	12,785	-	1,705	0.88	0.436
PA0028461	3	Mifflinburg Borough Municipal Authority	8/19/2014	10/31/2016	10/1/2011	25,570	-	3,409	0.941	0.436
PA0028576	1	Clarks Summit-South Abington Joint Authority	10/1/2009	10/31/2014	10/1/2014	66,483	-	8,310	0.733	0.436
PA0028592	3	Bonneauville Borough	8/24/2012	8/31/2017	1/1/2009	9,741	-	1,218	0.627	0.67
PA0028631	3	Emporium Borough (Mid-Cameron Authority)	1/8/2003	1/31/2008	10/1/2011	17,100	-	2,140	0.93	0.436
PA0028665 / PA0234079	2	Jersey Shore Borough / Tiadaghton Valley Municipal Authority [4]	10/24/2012	12/31/2015	10/1/2012	19,178	-	2,557	0.93	0.436
PA0028673	3	Gallitzin Borough	5/22/2013	5/31/2018	10/1/2016	7,306	-	974	0.836	0.436
PA0028681	2	Kelly Township Municipal Authority	8/11/2010	8/31/2015	10/1/2011	68,492	-	9,132	0.941	0.436
PA0028738	2	Ralpho Township Municipal Authority	9/29/2010	9/30/2015	10/1/2011	13,132	-	1,751	0.871	0.436
PA0028886	3	Quarryville Borough Authority	10/11/2012	10/31/2017	10/1/2014	7,306	-	974	0.98	0.436
PA0029106	2	Greenfield Township Municipal Authority	8/24/2010	8/31/2015	10/1/2012	14,612	-	1,948	0.88	0.436
PA0030139	3	Dallas State Correctional Institution	1/25/2011	1/31/2016	10/1/2009	9,741	-	1,218	0.871	0.436
PA0030597	3	Franklin County General Authority	3/28/2011	3/31/2016	10/1/2012	9,132	-	1,218	0.683	0.67
PA0030643	1	Shippensburg Borough Authority	1/17/2014	1/31/2019	10/1/2010	60,273	-	8,036	0.951	0.436
PA0032051	2	Granville Township	8/22/2011	8/31/2016	10/1/11	15,796	600	1,899	0.88	0.436
PA0032492	3	DCNR Bald Eagle State Park	8/25/2011	8/31/2016	10/1/2013	8,219	-	1,096	0.93	0.436
PA0032557	3	Logan Township	6/18/2012	6/30/2017	10/1/08*	15,013	-	1,876	0.88	0.436
PA0032883	2	Duncansville Borough	9/28/2007	9/30/2012	10/1/2011	22,228	-	2,963	0.88	0.436
PA0034576	2	Towanda Municipal Authority	8/16/2010	8/31/2015	10/1/2010	27,912	6,725	2,825	0.733	0.436
PA0036269	3	Stewartstown Borough	2/16/2007	2/29/2012	10/1/2010	11,415	-	1,522	1	1
PA0036820	3	Galeton Borough Authority	9/29/2011	9/30/2016	10/1/2011	9,132	-	1,218	0.93	0.436
PA0037150	1	Penn Township	3/7/2008	2/28/2013	10/1/2011	81,811	5,100	10,228	0.961	0.436
PA0037711	3	Everett Boro Municipal Authority	11/28/2012	11/30/2017	10/1/2013	15,890	-	2,119	0.897	0.436
PA0037737	3	Elizabethville Area Authority	2/14/2011	2/29/2016	10/1/2013	7,481	175	974	0.836	0.436

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0037966	2	Moshannon Valley Joint Sanitary Authority	11/28/2012	12/31/2015	10/1/2012	37,205	-	4,960	0.961	0.436
PA0038385	3	Defense Distribution Depot Susquehanna	2/8/2013	9/30/2016	10/1/2011	9,132	-	1,218	0.951	0.436
PA0038415	1	East Pennsboro Township [(5)]	12/7/2011	1/31/2013	10/1/2012	72,206	-	9,589	0.88	0.436
PA0038920	3	Burnham Borough	1/11/2011	1/31/2016	10/1/2013	11,689	-	1,559	0.891	0.436
PA0042269	1	Lancaster Area Sewer Authority	1/22/2008	1/31/2013	10/1/2010	273,969	-	36,529	0.961	0.436
PA0042951	3	Tremont Municipal Authority	3/14/2011	3/31/2016	10/1/2013	9,132	-	1,218	0.961	0.436
PA0043273	2	Hollidaysburg Regional Sewer Authority	9/27/2010	10/31/2015	10/1/2012	111,513	1,925	14,612	0.88	0.436
PA0043575	3	Lykens Borough	5/13/2011	5/31/2016	10/1/2012	7,563	75	998	0.951	0.436
PA0043681	3	Valley Joint Sewer Authority	6/1/2011	5/31/2016	10/1/2012	42,220	1,125	5,479	0.495	0.436
PA0043893	3	Western Clinton County Municipal Authority	7/8/2011	7/31/2016	10/1/2011	16,438	-	2,192	0.93	0.436
PA0044113	2	South Middleton Township Municipal Authority	4/23/2010	4/30/2015	10/1/2014	29,322	1,925	3,653	0.961	0.436
PA0044661	1	Lewisburg Area Joint Sanitary Authority	12/16/2013	12/31/2018	10/1/2012	44,200	-	5,893	0.941	0.436
PA0045985	1	Mountaintop Area Sewer Authority	3/6/2008	3/31/2013	10/1/2010	75,981	-	10,131	0.871	0.436
PA0046221	3	Newville Borough	5/20/2008	5/31/2013	10/1/2011	7,306	-	974	0.951	0.436
PA0046272	3	Porter-Tower Joint Municipal Authority	9/27/2011	9/30/2016	10/1/2013	7,854	-	1,047	0.951	0.436
PA0046388	3	Butler Township St. Johns	4/18/2013	4/30/2018	10/1/2009	40,182	-	5,357	0.871	0.436
PA0060046	3	Can-Do Inc	1/4/2012	1/31/2017	10/1/2012	18,265	-	2,435	0.871	0.436
PA0060135	3	Shickshinny Borough Sewer Authority	3/15/2013	1/31/2016	10/1/2013	8,219	-	1,096	0.871	0.436
PA0060518	3	Hallstead-Great Bend Joint Sewer Authority	12/9/2011	1/31/2013	10/1/2012	9,741	-	1,218	0.495	0.436
PA0060801	2	Montrose Municipal Authority	2/25/2011	2/29/2016	10/1/2013	14,977	-	1,997	0.733	0.436
PA0061034	3	Waverly Township	7/1/2011	7/31/2016	10/1/2013	9,132	-	1,218	0.733	0.436
PA0061590	3	Little Washington Wastewater Co.	6/17/2011	6/30/2016	10/1/2013	24,073	-	3,210	0.871	0.436
PA0062201	2	Schuylkill County Municipal Authority	8/10/2010	8/31/2015	10/1/2012	10,959	-	1,461	0.951	0.436

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0062219	1	Frackville Area Municipal Authority	3/20/2013	3/31/2018	10/1/2010	25,570	-	3,409	0.951	0.436
PA0064025	2	KBM Regional Authority	1/7/2011	1/31/2016	10/1/2009	13,637	-	1,705	0.871	0.436
PA0070041	3	Mahanoy City	6/13/2012	6/30/2017	10/1/2012	25,205	-	3,361	0.951	0.436
PA0070386	3	Shenandoah Municipal Sewer Authority	12/8/2011	12/31/2016	10/1/2011	36,529	-	4,871	0.951	0.436
PA0070424	2	Carnarvon Township	1/5/2010	1/31/2015	10/1/2013	12,785	-	1,705	0.891	0.436
PA0080225	3	Washington Township Municipal Authority	3/16/2005	4/1/2010	10/1/2013	35,983	550	4,724	0.819	0.67
PA0080314	1	Hampden Township Sewer Authority	3/27/2013	3/31/2018	10/1/2014	117,696	-	14,441	0.951	0.436
PA0080438	3	Northern Lancaster County Authority	1/10/2011	1/31/2016	10/1/2013	8,219	-	1,096	0.891	0.436
PA0080519	3	Antrim Township	8/22/2011	8/31/2016	10/1/2011	21,918	-	2,922	0.683	0.67
PA0080748	2	Northern Lebanon County Authority	4/3/2009	4/30/2014	10/1/2013	7,306	-	974	0.961	0.436
PA0081001	3	St. Thomas Township Municipal Authority	7/22/2011	7/31/2016	10/1/2013	7,306	-	974	0.683	0.67
PA0081574	2	Salisbury Township	2/24/2010	2/28/2015	10/1/2012	13,150	-	1,643	0.98	0.436
PA0081591	2	Eastern York County Sewer Authority	10/15/2010	10/31/2015	10/1/2012	9,132	-	1,218	0.961	0.436
PA0081868	1	Fairview Township	8/31/2012	1/31/2013	10/1/2010	13,333	-	1,778	0.961	0.436
PA0081949	3	West Earl Sewer Authority	2/1/2011	1/31/2016	10/1/2010	8,219	-	1,096	0.891	0.436
PA0082392	2	Derry Township Municipal Authority – Southwest	11/9/2010	11/30/2015	10/1/2012	10,959	-	1,461	0.961	0.436
PA0082589	2	Fairview Township	12/22/2010	12/31/2015	10/1/2012	9,132	-	1,218	0.961	0.436
PA0083011	2	Newberry Township	6/24/2010	6/30/2015	10/1/2012	23,744	-	3,166	0.961	0.436
PA0083593	3	Silver Spring Township	11/28/2007	11/30/2012	10/1/2010	21,918	-	2,922	0.951	0.436
PA0084026	2	Northwestern Lancaster County Authority	11/22/2010	11/30/2015	10/1/2008	14,987	375	1,827	0.97	0.436
PA0084212	3	Leacock Township	3/24/2009	3/31/2014	10/1/2012	7,306	-	974	0.891	0.436
PA0084425	3	Conewago Township Sewer Authority	5/20/2011	5/31/2016	10/1/2011	9,132	-	1,218	0.961	0.436
PA0085511	2	West Hanover	3/24/2010	3/31/2015	10/1/2012	16,496	2,250	1,900	0.961	0.436
PA0086860	3	Springfield Township Sewer Authority	12/17/2013	12/31/2018	10/1/2012	12,785	-	1,704	0.961	0.436

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0087181	1	Ephrata Borough Authority (#2)	1/17/2014	1/31/2019	10/1/2008	54,550	-	6,818	0.891	0.436
PA0087661	3	Chestnut Ridge Area Joint Municipal Authority	6/21/2011	6/30/2016	10/1/2013	22,877	10,000	1,717	0.897	0.436
PA0110361	3	Freedom Township Water & Sewer Authority	9/29/2010	9/30/2015	10/1/2013	10,959	-	1,461	0.88	0.436
PA0110469	3	Patton Borough	9/25/2012	12/31/2015	10/1/2013	9,863	-	1,315	0.836	0.436
PA0110582	1	Eastern Snyder County Regional Authority	1/11/2008	1/31/2013	10/1/2012	51,141	-	6,819	0.951	0.436
PA0110965	2	Mid-Centre County Authority	5/21/2010	5/31/2015	10/1/2011	18,265	-	2,435	0.93	0.436
PA0113298	3	Elkland Municipal Authority	8/28/2013	8/31/2018	10/1/2010	10,277	-	1,285	0.474	0.436
PA0114821	3	Gregg Township	2/28/2014	2/28/2019	10/1/2008	23,013	-	3,068	0.941	0.436
PA0114961	3	Hughesville-Wolf Township Joint Sewer Authority	3/15/2011	3/31/2016	10/1/2011	12,329	-	1,644	0.941	0.436
PA0205869	2	West Branch Sewer Authority	6/11/2009	6/30/2014	10/1/2012	16,438	-	2,192	0.836	0.436
PA0208922	3	Woodward Township	6/11/2013	1/31/2015	10/1/2013	10,228	-	1,364	0.871	0.436
PA0209228	2	Lycoming County Water & Sewer Authority [(6)]	9/7/2012	7/31/2015	10/1/2011	34,703	-	4,627	0.941	0.436
PA0228915	3	ORD Sewer Authority	10/21/2011	9/30/2015	10/1/2010	9,748	-	1,218	0.836	0.436
PA0247391	2	North Codorus Township	1/13/2014	1/31/2019	10/1/2006	13,394	-	1,674	0.961	0.436
PA0253812	3	Glendale Valley M.A.	6/6/2012	3/31/2014	10/1/2013	7,808	-	1,041	0.836	0.436
PA0261262	1	North Londonderry Township Authority	2/14/2011	2/29/2016	10/1/2012	25,936	-	3,458	0.961	0.436
PA0261670	3	Fredericksburg Water & Sewer Authority	10/12/2011	10/31/2016	10/1/2014	7,306	-	974	0.961	0.436

Notes:

(1) Milton Regional Sewage Authority (MSRA) TN and TP cap loads will be revised when its permit is renewed. Two non-significant sewage facilities, Watsontown Borough (PA0021733) and Delaware Township Municipal Authority (PA0028606), ceased discharging and connected to the MRSA system on May 8, 2013, and July 8, 2013, respectively. Both NPDES permits have been canceled and removed from the non-significant dischargers list. A total of 7,752 lbs of TN (7,306 for Watsontown and 2,446 for Delaware) and 1,720 lbs of TP (974 for Watsontown and 746 for Delaware) will be added to MRSA's respective Cap Loads. However, it is anticipated that offsets due to 703 on-lot retiring systems, which were earlier included in Milton's TN Cap Load, will be removed.

(2) On December 17, 2012, DEP issued a permit to West Branch Regional Authority (PA0234117). Upon startup of the West Branch Regional Authority Wastewater Treatment Plant, the NPDES Permits for Muncy Borough Municipality Authority (PA0024325) and Montgomery Borough Water & Sewer Authority (PA0020699) will be terminated. The Cap Loads for PA0024325 and PA0020699 will be transferred to West Branch Regional Authority.

(3) On December 7, 2011, DEP issued a permit amendment to Lemoyne Borough (PA0026441). The amendment removed the Cap Loads that were to take effect on October 1, 2012. Those Cap Loads were 46,270 lbs/yr TN and 5,784 lbs/yr TP. The permit also specifies that new Cap Loads of 19,433 lbs/yr TN and 2,249 lbs/yr TP will become effective on October 1, 2015, which is beyond the term of the current permit. These Cap Loads will be established in the renewed permit. The reduction in Cap Loads is a result of two municipalities deciding to remove its flows that are tributary to Lemoyne's facility, and connect to other facilities (Hampden Township and East Pennsboro Township).

(4) A permit was issued to Tiadaghton Valley Municipal Authority (PA0234079), a new facility, on March 16, 2012 with the same cap loads as those for Jersey Shore Borough (PA0028665). This facility will replace Jersey Shore Borough when it begins operation. Ownership of the Jersey Shore facility was transferred to Tiadaghton Valley Municipal Authority on October 24, 2012. Permit No. PA0028665 will be terminated after PA0234079 commences operation.

(5) On December 7, 2011, DEP issued a permit amendment to East Pennsboro Township (PA0038415). The Cap Loads were increased from 67,579 lbs/yr TN and 9,011 lbs/yr TP to 72,206 lbs/yr TN and 9,589 lbs/yr TP, due to the receipt of new flows that will be diverted from Lemoyne Borough.

(6) Lycoming County Water & Sewer Authority (PA0209228) has been issued a final permit amendment in which cap loads have been increased by 7,306 lbs/yr TN and 974 lbs/yr TP due to the receipt of sewage flows (0.1 MGD design flow) from the Crown American Lycoming Mall Sewer Plant (PA0046167), which was decommissioned in 2006. This increase of 7,306 TN and 974 TP will be deducted from the non-significant aggregate load.

The only remaining significant sewage discharger that does not have Cap Loads in its permit is New Freedom Borough, PA0043257. A draft permit has been issued but has not been finalized. The projected TN and TP Cap Loads are 41,095 lbs/yr and 5,479 lbs/yr, respectively.

Upon completion of the initial round of permit issuance to significant sewage dischargers, it is anticipated that the following total Cap Loads will be established:

- 1,199,634 lbs/yr TN (39,364 lbs/yr greater than total revised WLA for Phase 3)
- 156,448 lbs/yr TP (2,057 lbs/yr greater than total revised WLA for Phase 3)

The difference is primarily the result of non-significant facilities that have upgraded and are now considered significant facilities. The difference, 39,364 lbs/yr TN and 2,057 lbs/yr TP, will be accounted for by moving non-significant aggregate WLAs to the significant sewage aggregate WLAs.

The minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for significant sewage dischargers will be twice/week.

3. Remaining Capacity for Significant Sewage Dischargers

As presented in the table below, at this time the total Cap Loads that have been or will be established in permits for significant sewage dischargers are 83,131 lbs/yr TN and 6,908 lbs/yr TP greater than the total revised WLAs:

Phase	No. Facilities	TN Cap Loads (lbs/yr)	TP Cap Loads (lbs/yr)
1	63	7,741,146	1,008,004
2	46	1,137,040	146,141
3	80	1,199,634	156,448
Totals:	**189**	**10,077,820**	1,310,593
Total Revised WLAs (Significant Sewage):		**9,994,689**	**1,303,685**
	Difference:	**83,131**	**6,908**

This difference is accounted for as follows:

- TN: 52,648 lbs/yr will be moved from the TMDL load allocation for septic systems (which has an approximate load allocation of 3.182 million lbs/yr TN) to the significant sewage aggregate WLA, and 30,483 lbs/yr will be moved from the non-significant aggregate WLA to the significant sewage aggregate WLA.

- TP: 6,908 lbs/yr will be moved from the non-significant aggregate WLA to the significant sewage aggregate WLA.

The Cap Loads listed in Table 7-1 should now be considered the revised WLAs for the TMDL. Of the 189 significant sewage dischargers, 188 have Cap Loads in their permits. DEP will attempt to issue the remaining permit identified by March 31, 2015, with a Cap Load compliance start date no later than October 1, 2016.

There is no remaining Capacity for significant sewage dischargers. Expansions by any facility presently listed in Phases 1, 2 and 3 will not result in any additional authorized load, and Credits and Offsets may be used to meet Cap Loads. Where non-significant facilities expand to a design flow of 0.4 MGD or greater, the lesser of baseline Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP or existing performance will be used for permits, and the load will be moved from the non-significant aggregate load to the significant sewage aggregate load.

It is noted that as of October 1, 2014, DEP's accounting indicates that 12,588 on-lot septic and wildcat systems have been connected to the sewer systems of significant sewage facilities and overall 318,102 lbs of TN offsets have been approved (154,000 lbs TN offsets have been incorporated into Cap Loads and 164,102 lbs TN offsets have been approved for compliance use only but are not incorporated into Cap Loads).

B. Industrial Waste

1. Aggregate Waste Load Allocation

Thirty (30) industrial waste (IW) facilities have individual WLAs in the TMDL, as these facilities had been identified previously by DEP as "significant dischargers" by virtue of having gross effluent discharges that have exceeded 75 lbs/day of TN or 25 lbs/day of TP. The thirty significant IW facilities and their WLAs are listed in Table 7-2.

Table 7-2: Existing Significant IW Dischargers

NPDES Permit No.	Facility	TN WLA (lbs/yr)	TP WLA (lbs/yr)
PA0007498	Wise Foods Inc.	19,957	898
PA0007552	Empire Kosher Poultry	21,928	740
PA0007919	Cascades Tissue Group	40,569	1,941
PA0008231	Gold Mills	5,723	198
PA0008265	Appleton Paper Springmill	61,666	7,367
PA0008419	Cherokee Pharmaceutical	44,497	11,748
PA0008443	PPL Montour LLC	72,749	1,200
PA0008591	NGC Industries LLC	2,213	106
PA0008869	PH Glatfelter Co.	117,588	6,821
PA0008885	Proctor & Gamble Paper Products	100,360	5,441
PA0009024	Global Tungsten (Osram)	600,515	1,577
PA0009229	Consolidated Rail Corporation	2,539	93
PA0009270	Del Monte Corp.	30,639	1,449
PA0009326	Motts Inc.	18,645	729
PA0009857	USFW – Lamar National Fish Hatchery	60,138	1,919
PA0009911	Papetti's Acquisition Inc.	8,104	532
PA0010553	PAFBC – Benner Springs	110,347	2,285
PA0010561	PAFBC – Pleasant Gap	55,049	1,591
PA0024228	BC Natural Chicken LLC	18,982	766
PA0035092	Tyson Foods	27,397	559
PA0035157	Farmer's Pride Inc.	16,438	1,370
PA0037141	PAFBC – Huntsdale	53,512	2,804
PA0038598	Susquehanna Aquaculture Inc.	54,007	3,530
PA0040835	PAFBC – Bellefonte	78,988	2,636
PA0044032	PAFBC – Upper Spring	7,000	50
PA0044741	Hanover Foods Corp.	26,385	979
PA0046680	Republic Services of PA LLC	40,803	131
PA0110540	Furman Foods	45,450	1,624
PA0111759	Cargill Meat Solutions	14,612	1,218
PA0112127	PAFBC – Tylersville	63,339	2,382

The Significant IW Aggregate WLAs in the TMDL are therefore 1,820,139 lbs/yr TN and 64,684 lbs/yr TP.

DEP has discovered that several facilities withdraw water from the same stream where the discharge occurs. The WLAs provided to these facilities in the TMDL are gross loads that include background nutrients withdrawn from those streams. When reviewing the *net* contribution from the facilities, it is clear that the facilities do not meet the original thresholds used (75 lbs/day TN or 25 lbs/day TP) to determine the significant IW discharger list, i.e., if their net loads had been considered, they would not have been categorized as significant to begin with. The facilities listed in Table 7-3 below are in this category. The table presents actual net loads (discharge load minus intake load) based on DEP's best estimates using available data.

Table 7-3: IW Dischargers No Longer Considered Significant

NPDES Permit No.	Facility	Actual Net Loads	
		TN (lbs/yr)	TP (lbs/yr)
PA0008869	PH Glatfelter Company	0	0
PA0009857	USFW – Lamar National Fish Hatchery	9,879	791
PA0010553	PAFBC – Benner Springs	5,092	2,924
PA0010561	PAFBC – Pleasant Gap	13,830	1,817
PA0037141	PAFBC – Huntsdale	7,762	1,991
PA0038598	Susquehanna Aquaculture Inc.	22,973	3,678
PA0040835	PAFBC – Bellefonte	1,562	2,396
PA0044032	PAFBC – Upper Spring	0	0
PA0112127	PAFBC – Tylersville	7,454	2,124
	TOTALS:	**68,552**	**15,721**

The total of the actual net loads for these facilities, 68,552 lbs/yr TN and 15,721 lbs/yr TP, will be moved to the non-significant aggregate WLA, and the facilities listed above will not require Cap Loads at this time, unless requested by the facilities.

2. TMDL Implementation

The Phase I WIP outlined the approach used to determine proposed Cap Loads for significant IW dischargers:

1. Facilities that reduced TN and TP prior to 2002 – Cap Loads established using the 2002 load or the current (2007-2008) load, whichever is greater, plus 10%.

2. Facilities that submitted a Nutrient Reduction Evaluation (NRE) as requested by DEP and reduced their TN and TP loads between 2002 and 2009 – Cap Loads established using the current (2007-2008) load, plus 10%.

3. Facilities that submitted an NRE and planning to reduce TN and TP loads through facility upgrades or operational improvements – Cap Loads established as requested by the facility in the NRE, with a compliance schedule.

4. Facilities that are already at “low levels” of nutrient discharge loads – Cap Loads established at current (2007-2008) loads.

5. Facilities that did not submit an NRE or submitted an NRE but did not propose to reduce nutrient loads – Cap Loads established at current (2007-2008) loads, reduced by 33%.

At this time, final NPDES permits have been issued to 16 of the 23 significant IW dischargers. Table 7-4 presents the Cap Loads that have been assigned at this time:

Table 7-4: Significant IW Facilities That Have Received Draft or Final Cap Loads

NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0007498	Wise Foods Inc.	11/28/12	12/31/17	10/1/13	19,957	898	0.836	0.436
PA0007552	Empire Kosher Poultry	2/24/11	2/29/16	10/1/15	21,928	740	0.88	0.436
PA0007919	Cascades Tissue Group	12/24/13	10/31/18	11/1/13	40,569	1,941	0.733	0.436
PA0008231	Gold Mills LLC	8/3/11	8/31/16	10/1/11	7,065	271	0.961	0.436
PA0008591	NGC Industries LLC	1/24/12	1/31/17	10/1/12	2,758	132	0.941	0.436
PA0008885	Proctor & Gamble Paper Products	6/1/11	6/30/16	10/1/11	100,360	5,441	0.733	0.436
PA0009024	Global Tungsten (Osram)	6/18/14	2/28/17	10/1/12	600,515	1,577	0.7	0.436
PA0009229	Consolidated Rail Corporation	7/30/13	7/31/18	10/1/13	2,539	93	0.951	0.436
PA0009270	Del Monte Corp.	4/24/14	9/30/17	10/1/14	33,196	1,492	0.836	0.436
PA0009911	Papetti's Acquisition Inc.	12/6/11	12/31/16	10/1/13	8,104	532	0.961	0.436
PA0080829	Keystone Protein Co.*	9/22/14	3/31/17	10/1/16	19,786	381	0.961	0.436
PA0024228	BC Natural Chicken LLC	3/10/11	3/31/16	10/1/14	18,982	766	0.961	0.436
PA0035092	Tyson Foods	8/15/11	8/31/16	10/1/14	54,794	559	0.891	0.436
PA0035157	Farmer's Pride Inc.	1/23/12	1/31/17	10/1/15	16,438	1,370	0.961	0.436
PA0110540	Furman Foods	3/15/11	3/31/16	10/1/12	45,450	1,624	0.876	0.436
PA0111759	Cargill Meat Solutions	9/27/12	9/30/17	10/1/13	19,483	1,218	0.733	0.436
				TOTALS:	**968,816**	**17,001**		

* New addition to significant IW facility list

The Cap Loads listed in Table 7-4 should now be considered the revised WLAs for the TMDL.

Table 7-5 presents the remaining six facilities from the original significant list, plus one additional facility, that require Cap Loads and the WLAs that will be used as the basis for Cap Loads in their permits. As discussed below, it is possible that additional load may be granted to the facilities in Table 7-5.

Table 7-5: Remaining Significant IW Facilities to Receive Cap Loads

NPDES Permit No.	Facility	TN WLA (lbs/yr)	TP WLA (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0008265	Appleton Paper Springmill	61,666	7,367	0.88	0.436
PA0008419	Cherokee Pharmaceutical	44,497	11,748	0.876	0.436
PA0008443	PPL Montour LLC	72,749	1,200	0.941	0.436
PA0009326	Motts Inc.	18,645	729	0.72	0.669
PA0044741	Hanover Foods Corp.	26,385	979	0.961	0.436
PA0046680	Republic Services of PA LLC	40,803	131	0.961	0.436
PA0055328	New Morgan Landfill Co. Inc.(1)	12,500	64	0.891	0.436
	TOTALS:	**307,853**	**24,188**		

Note:

1) DEP has identified New Morgan Landfill Co. Inc. ("Conestoga Landfill", PA0055328) in Berks County as a significant IW facility because it has modified its treatment process which will result in additional TN load. DEP anticipates the development of a draft permit to include Cap Loads of 12,500 lbs/yr TN and 64 lbs/yr TP, with a compliance start date no later than October 1, 2016.

Table 7-6 presents the revised list of 23 significant IW facilities. The projected total Cap Loads for these significant IW facilities (i.e., established Cap Loads plus projected Cap Loads) are:

- 1,289,169 lbs/yr TN
- 41,253 lbs/yr TP

Table 7-6: Revised List of Significant IW Facilities

NPDES Permit No.	Facility
PA0007498	Wise Foods Inc.
PA0007552	Empire Kosher Poultry
PA0007919	Cascades Tissue Group
PA0008231	Gold Mills Dyehouse
PA0008265	Appleton Paper Springmill
PA0008419	Merck & Company
PA0008443	PPL Montour LLC
PA0008591	NGC Industries LLC
PA0008885	Proctor & Gamble Paper Products
PA0009024	Global Tungsten (Osram)
PA0009229	Consolidated Rail Corporation
PA0009270	Del Monte Corp.
PA0009326	Motts Inc.
PA0009911	Papetti's Acquisition Inc.
PA0024228	BC Natural Chicken LLC
PA0035092	Tyson Foods
PA0035157	Farmer's Pride Inc.
PA0044741	Hanover Foods Corp.

NPDES Permit No.	Facility
PA0046680	Republic Services of PA LLC
PA0055328	Conestoga Landfill
PA0080829	Keystone Protein Company
PA0110540	Furman Foods
PA0111759	Cargill Meat Solutions

The minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for significant industrial dischargers will be twice/week.

3. *Remaining Capacity for Significant IW Dischargers*

Once the actual net loads for facilities withdrawing and discharging to the same stream (Table 7-6) are subtracted from the significant IW aggregate WLAs and shifted to the non-significant aggregate WLAs, the following adjusted WLAs would apply for significant IW dischargers:

- 1,751,587 lbs/yr TN (1,820,139 lbs/yr WLA – 68,552 lbs/yr actual net loads)
- 48,963 lbs/yr TP (64,684 lbs/yr WLA – 15,721 lbs/yr actual net loads)

As a result, when the initial round of permitting is complete for all significant IW dischargers, the following remaining Capacities are projected:

- 462,418 lbs/yr TN (1,751,587 lbs/yr adjusted WLA – 1,289,169 lbs/yr total Cap Loads)
- 7,710 lbs/yr TP (48,963 lbs/yr adjusted WLA – 41,253 lbs/yr total Cap Loads)

This reserve will be managed as follows:

1. Fifty percent (50%) will be set aside as a reserve for non-significant IW facilities that either:

   a) Propose expansion and will, following expansion, meet the criteria for a significant IW discharge (75 lbs/day TN or 25 lbs/day TP as annual average values). Cap Loads will be established in permits for such facilities that will not exceed total annual average loads over the previous 5 years based on available TN and TP monitoring data, as determined by DEP, or technology-based requirements. This reserve is not for indirect dischargers that intend to become direct dischargers (see Section IV.C).

   or

   b) Already meet the criteria for a significant IW discharge but have been overlooked to date. When such facilities are discovered through permit application sampling, Discharge Monitoring Report (DMR) data, or DEP sampling, Cap Loads will be established in permits. Cap Loads will not exceed total annual average loads over the previous 5 years based on available TN and TP monitoring data, as determined by DEP, or technology-based requirements.

2. Fifty percent (50%) will be set aside as a reserve for significant IW facilities for:

   a) Future growth (25%) based on increased production, in which case increased Cap Loads (if sufficient reserve exists) will be proportional to the increase in production over the previous 5 years (example – the company reports it made 1 million lbs of product in the previous 5 years and anticipates producing 1.1 million lbs of product in the next 5 years – a 10% increase in Cap Loads may be authorized);

and

b) Adjustments to Cap Loads (25%) within the initial phase of permitting, in which case Cap Loads (if sufficient reserve exists) will not exceed total annual average loads over the previous 5 years based on available TN and TP monitoring data, as determined by DEP. In addition, allocation of this reserve will be done based on the proportion of the facility's design flow to the overall flow for significant IW dischargers (example – a facility with a design flow that is 10% of the total flow for all significant dischargers may receive adjustments up to 10%). Any reserve left over following the initial phase of permitting will be placed into the reserve for future growth.

For all scenarios, DEP regional offices will discuss possible use of the reserve with DEP Central Office before issuing draft permits, since Central Office has the responsibility of managing the reserve and so that Central Office can verify that sufficient reserve exists. Central Office may use loads from the non-significant aggregate WLAs if deemed necessary, and all such changes will be tracked.

For the remaining 9 significant IW dischargers that do not have Cap Loads in draft or final permits, DEP will attempt to the issue the permits by January 1, 2015, with Cap Load compliance start dates no later than October 1, 2016.

II. Non-Significant Dischargers

Non-significant dischargers include sewage facilities (Phases 4 and 5, less than 0.4 MGD but greater than 0.002 MGD design flow), small flow/single residence sewage treatment facilities (less than or equal to 0.002 MGD design flow), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

A. Aggregate Waste Load Allocation

The aggregate WLAs in the TMDL for all non-significant sewage and industrial waste dischargers are as follows:

- 3,006,667 lbs/yr TN
- 842,104 lbs/yr TP

As discussed in Section I, 30,483 lbs/yr TN and 6,908 lbs/yr TP will be moved from the non-significant aggregate WLAs to the significant sewage aggregate WLAs; 9,132 lbs/yr TN and 1,218 lbs/yr TP from New Morgan Borough STP will be moved from the significant sewage aggregate WLAs to the non-significant aggregate WLAs; and 68,552 lbs/yr TN and 15,721 lbs/yr TP will be transferred from the significant IW aggregate WLAs to the non-significant aggregate WLAs. This results in the following adjusted WLAs for non-significant facilities:

- 3,053,868 lbs/yr TN
- 852,135 lbs/yr TP

At this time, there are approximately 900 Phase 4 and 5 sewage facilities, approximately 570 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 600 non-significant IW facilities.

B. TMDL Implementation

For Phase 4 sewage facilities (average annual design flow on August 29, 2005 ≥ 0.2 MGD and < 0.4 MGD), a future decision may be made as to the establishment of Cap Loads in permits. Until then, DEP will permit Phase 4 sewage facilities as follows:

1. Renewed or amended permits for facilities that do not increase design flow (compared to the date of the latest prior permit action) will contain monitoring and reporting for TN and TP throughout the permit term at a frequency no less than monthly.

2. Renewed or amended permits that include an increase in design flow will contain Cap Loads based on the lesser of a) existing TN and TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

For Phase 5 sewage facilities with individual permits (average annual design flow on August 29, 2005 > 0.002 MGD and < 0.2 MGD), DEP will issue individual permits with monitoring and reporting for TN and TP throughout the permit term at a frequency no less than annually, unless 1) the facility has already conducted at least two years of nutrient monitoring and 2) a summary of the monitoring results are included in the next permit's fact sheet. If, however, Phase 5 facilities choose to expand, the renewed or amended permits will contain Cap Loads based on the lesser of a) existing TN/TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

If no data are available to determine existing concentrations for expanding Phase 4 or 5 facilities, default concentrations of 25 mg/l TN and 4 mg/l TP may be used (these are the average estimated concentrations of all non-significant sewage facilities).

DEP will not issue permits to existing Phase 4 and 5 facilities containing Cap Loads unless it is done on a broad scale or unless the facilities are expanding.

For new Phase 4 and 5 sewage discharges, there is no anticipated capacity available in the aggregate WLAs. Therefore, in general DEP will issue new permits containing Cap Loads of "0" and new facilities will be expected to purchase credits and/or apply offsets to achieve compliance, with the exception of small flow and single residence facilities.

For non-significant IW facilities, monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring. Monitoring for facilities with other discharges will generally conform to the following minimum sampling frequencies, with the permit writer having final discretion:

- Food processing and related discharges, discharges associated with textiles, lumber and paper processing, discharges associated with residual waste management (e.g., landfill leachate, coal ash sluice water) – 1/month.
- Stormwater expected to contain TN or TP, discharges from metal finishing and related processing, discharges associated with chemicals, plastics and allied product manufacturing – 1/quarter.
- Cooling water or other discharges treated with chemical additives containing N and/or P – 1/year.

Non-significant IW facilities that propose expansion or production increases and as a result will discharge at least 75 lbs/day TN or 25 lbs/day TP (on an annual average basis) will receive Cap Loads in their permits based on existing performance (see Section I.B.3).

DEP will continue to use best professional judgment and/or EPA defaults to estimate loads associated with small flow sewage treatment facilities (≤ 0.002 MGD), stormwater not expected to come into contact with materials containing N or P, and other IW facilities where monitoring data are not available.

For new non-significant IW discharges, the permit writer must document in the fact sheet that adequate available Capacity for TN and TP remains to authorize the new permit.

C. Remaining Capacity for Non-Significant Dischargers

At this time, DEP is continuing to compile data to estimate the available remaining capacity under the non-significant aggregate WLA. DEP has provided periodic estimates to EPA, but considers the data incomplete at this time. Completion of this task may facilitate decision-making with respect to Phase 4 sewage facilities and other approaches designed to maintain levels under the aggregate WLAs.

III. Combined Sewer Overflows (CSOs)

A. Aggregate Waste Load Allocation

WLAs have been established in the TMDL for 39 facilities with CSOs. The aggregate WLAs are as follows:

- 212,917 lbs/yr Total Nitrogen (TN); and
- 34,709 lbs/yr Total Phosphorus (TP).

B. TMDL Implementation

DEP intends to continue addressing CSOs through its CSO Policy (DEP ID No. 385-2000-011), including the Nine Minimum Controls (NMCs), Long-Term Control Plans (LTCPs) and Post-Construction Monitoring. DEP does not intend to impose monitoring or Cap Loads in NPDES permits for CSOs.

C. Remaining Capacity for CSO Dischargers

DEP assumes there is no remaining Capacity for CSO dischargers.

IV. Additional Implementation Measures

A. Cap Loads

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

In general, the Cap Loads specified in NPDES permits may be modified only if one or more of the following occur:

- Consolidation of NPDES-permitted discharges, in which the lesser of existing annual loads or the Cap Loads from the treatment facility that will no longer discharge will be added to the Cap Loads in the permit for the treatment facility that will continue discharging.

- DEP or EPA determines that modified Cap Loads are necessary to achieve water quality standards for the protection of the Chesapeake Bay.

B. Offsets

Offsets may be approved for the following nutrient load reduction activities upon receipt of written approval from DEP:

- Connection of on-lot septic systems to the public sewer system, if such on-lot systems were in existence prior to January 1, 2003 and where the facility has the existing hydraulic and organic Capacity to allow such connections. An offset of 25 lbs/yr of TN per dwelling connected may be approved. Such Offsets are cumulative and may be applied annually to meet compliance with Cap Loads.

- Connection of dwellings served by wildcat sewers to the public sewer system. Offsets of 25 lbs/yr of TN and 3 lbs/yr TP may be approved. Such Offsets are cumulative and may be applied annually to meet compliance.

- Receipt of hauled-in septage at the permittee's facility from residential sources within the municipal Act 537 planning area. Three pounds (3 lbs) of TN Offsets per year may be approved per 1,000 gallons of septage accepted and processed at the facility. Offsets may be approved for the acceptance of residential septage only. For the purpose of these Offsets, septage is defined as material removed from a septic tank by pumping. No other hauled-in wastes, including but not limited to holding tank wastes, solids and sludges generated at other facilities, may be approved. Such approved Offsets may only be applied in the Compliance Year in which the septage was accepted, and are not cumulative.

- The transfer of load between facilities owned by the same entity, where the facilities have Cap Loads. Such Offsets may only be applied in the Compliance Year in which the load was transferred, and are not cumulative. Such transfers may only be authorized if (1) the facility receiving the transfer does not discharge to receiving waters that are classified as impaired for nutrients and (2) the facilities have the same Delivery Ratio for TN or TP, as applicable.

  This transfer can occur in two ways: 1) Facility A has discharged a load that is below the Cap Load, in which the difference may be transferred to Facility B (owned by the same entity); or 2) Facility A has Offsets approved in a permit that are not needed to achieve compliance with Cap Loads, and may be transferred to Facility B (owned by the same entity).

- The diversion of flow from an indirect discharger to a new facility. If for example Municipality A is connected to Municipality B's public sewer system for treatment, and Municipality A decides to divert its flows to Municipality C, Municipality C may be approved for Offsets equivalent to Municipality A's actual annual average flow and loads, and Municipality B's Cap Loads may be decreased accordingly.

- Other nutrient load reduction activities may be approved at DEP's discretion. All new proposals for the generation of Offsets must be coordinated with DEP Central Office.

  Offsets may not be approved for new or existing indirect discharges to public sewer systems.

  Unless DEP has specifically authorized to do so in a permit or other agreement, Offsets may not be sold as Credits.

  Once approval for Offsets is obtained, the permittee must report the Offsets on the Monthly Nitrogen Budget (3800-FM-BPNPSM0445) and/or the Monthly Phosphorus Budget (3800-FM-BPNPSM0446) forms to apply the Offsets toward compliance with the Cap Loads.

C. Connection of Facilities

If Facility A has a permitted discharge and decides to eliminate the discharge through connection to Facility B, the lesser of the existing annual TN and TP loads or Cap Loads of Facility A may be transferred to Facility B's Cap Load. The transferred loads are not considered Offsets and can be used for nutrient trading purposes.

If Facility A is an indirect discharger to Facility B and decides to remove its flow, opting to obtain an NPDES permit for its own discharge, Facility A will receive zero (0) for Cap Loads and Facility B will retain its original Cap Loads.

D. Compliance Schedules

Compliance schedules will continue to be placed in permits through the completion of the initial round of permitting. Compliance schedules may also be used in permits for facilities that are expanding. In general, once a compliance schedule is issued in a final permit and is administratively final, the final date to achieve compliance with Cap Loads should not be modified. In the event a facility is not able to meet Cap Loads by the final compliance date in the permit, nutrient Credits may be purchased to achieve compliance. If the compliance schedule will exceed one year to achieve compliance with Cap Loads, interim milestones must be used in intervals no less than one year.

E. Reporting

All facilities with Cap Loads must submit an Annual DMR and Annual Nutrient Summary form (3800-FM-BPNPSM0447) to report Annual Net Mass Loads by November 28th following the end of the compliance year. If Credits are purchased or sold during the compliance year, or if Offsets are approved by DEP, facilities should report these activities on Nitrogen Budget and Phosphorus Budget forms.

If Credits are purchased or sold during the Truing Period (October 1 – November 28), the Credits purchased or sold must be recorded on the Annual Nutrient Summary form, and Nitrogen and/or Phosphorus Budget forms must be submitted to account for Truing Period activity.

To report nutrient monitoring data on a monthly basis, facilities with Cap Loads should use the Nutrient Monitoring Report form (3800-FM-BPNPSM0444). Facilities should use the latest electronic Nutrient Monitoring Report and Budget forms that are available at DEP's website (go to www.dep.state.pa.us/edmr, select PA DMR Supplemental Reports).

All facilities with permits containing Cap Loads must use DEP's electronic DMR (eDMR) system to report statistical results (DMRs) and supplemental forms for compliance assessment. If a facility is not currently using eDMR for the submission of DMRs, upon amendment or renewal of the permit the facility will be required to begin doing so.

F. Nutrient Credits

Nutrient credits may be used for compliance with the Cap Loads where authorized under 25 Pa. Code § 96.8 (Use of offsets and tradable credits from pollution reduction activities in the Chesapeake Bay Watershed), including amendments, updates and revisions thereto; in accordance with this Wastewater Supplement; the Nutrient Trading Supplement to the Phase 2 WIP (Nutrient Trading Supplement) and additional guidance available on DEP's website (see (www.depweb.state.pa.us/nutrient_trading).

Effective October 1, 2015, for the purpose of generating credits for sale, all significant sewage treatment facilities with an assigned Cap Load (see Table 7-1) are considered certified to generate credits, provided the facility demonstrates treated effluent concentrations below 6.0 mg/L TN and 0.8 mg/L TP (i.e., "baseline" concentrations) and are in accord with the procedures described below and the Nutrient Trading Supplement. Additional guidance on how to apply for verification and the registration of credits can also be found on the nutrient trading website, www.depweb.state.pa.us/nutrient_trading. In addition:

- To generate Credits, facilities must be able to demonstrate they are in compliance with their NPDES permit.
- The total amount of Credits the facility is certified to generate will be equal to their permitted Cap Load.
- This certification will expire on September 30, 2017.
- All existing approved certifications that were approved prior to October 1, 2014 will expire on September 30, 2015. This includes all certifications allowing for the generation of credits using the assigned Cap Load as baseline. This method of credit calculation will not be used after Compliance Year 2015. The formulas and an example of this methodology are below.
- Beginning October 1, 2015 (Compliance Year 2016), the calculation of Credits will be made using new formulas. The formulas and an example are below.

Point Source Credit Calculations

For the period **October 1, 2014 through September 30, 2015**, if the Annual Total Mass Load at the end of the Compliance Year is less than the Cap Load in the permit, the number of Credits that may be verified is determined by the following equation:

(Cap Load – Offsets incorporated into Cap Load (if applicable)* – Annual Total Mass Load) x Delivery Ratio x 0.9, where 0.9 is the factor used to provide a reserve ratio of 10%.

* In the event that 1) DEP certified Credits prior to March 1, 2012 and 2) DEP issued the Credit certification in a manner that included Offsets, DEP will register those Credits until the expiration date of the Credit certification.

Starting October 1, 2015, the calculation of TN and TP credits will be made by the following formulas after the end of a Compliance Year:

TN Credits: [∑ (Average Daily Flow on day of sampling x (6.0 mg/L TN –TN Effluent Concentration in sample) x 8.345) / No. Samples Taken During Year] x 365 days/year x TN Delivery Ratio x 0.9

TP Credits: [∑ (Average Daily Flow on day of sampling x (0.8 mg/L TP –TP Effluent Concentration in sample) x 8.345) / No. Samples Taken During Year] x 365 days/year x TP Delivery Ratio x 0.9

The average daily flow on the day of sampling in million gallons per day (MGD) is multiplied by the difference between the actual TN and TP effluent concentrations in the sample collected and 6.0 mg/L and 0.8 mg/L, respectively, and the conversion factor of 8.345. The sum of these values is divided by the number of samples taken during the Compliance Year, and then multiplied by 365 days/year, the TN/TP Delivery Ratio, and 0.9 (to account for a 10% reserve).

Example Credit Calculation Starting October 1, 2015

This example assumes only one sample is collected per month. The actual number of samples will generally be greater. Assume the TN Delivery Ratio is 0.7. Effluent sampling at a sewage treatment facility produces the following data for a Compliance Year:

Sampling Date	Sample Result Effluent TN (mg/L)	Average Daily Flow on Day of Sampling (MGD)
10/1/2015	6.5	2.2
11/1/2015	4.6	2.5
12/1/2015	5.1	2.0
1/1/2016	6.0	1.9
2/1/2016	3.8	2.0
3/1/2016	5.5	2.3
4/1/2016	4.2	2.6
5/1/2016	6.4	2.1
6/1/2016	6.9	2.0
7/1/2016	5.8	1.9
8/1/2016	5.2	1.8
9/1/2016	4.7	1.9

Step 1: Determine Total Load Below Baseline

Subtract each Effluent TN concentration from the nutrient trading baseline TN concentration (6.0 mg/L). (Note that for TP, the same step is performed using the nutrient trading TP baseline concentration of 0.8 mg/L). The difference is then multiplied by the Average Daily Flow on Day of Sampling and the conversion factor of 8.345. If the Effluent TN concentration exceeds 6.0 mg/L, the values will be negative. Sum the Daily Loads Below Baseline.

Calculations and rounding should be completed in accordance with DEP's guidance, Discharge Monitoring Reports Overview and Summary (3800-BK-DEP3047).

Sampling Date	Effluent TN (mg/L)	Baseline TN (mg/L)	Difference (mg/L)	Average Daily Flow on Day of Sampling (MGD)	Daily Load Below Baseline (lbs/day)
10/1/2015	6.5	6.0	- 0.5	2.2	- 9.2
11/1/2015	4.6	6.0	1.4	2.5	29.2
12/1/2015	5.1	6.0	0.9	2.0	15.0
1/1/2016	6.0	6.0	0	1.9	0
2/1/2016	3.8	6.0	2.2	2.0	36.7
3/1/2016	5.5	6.0	0.5	2.3	9.6
4/1/2016	4.2	6.0	1.8	2.6	39.1
5/1/2016	6.4	6.0	- 0.4	2.1	- 7.0
6/1/2016	6.9	6.0	- 0.9	2.0	- 15.0
7/1/2016	5.8	6.0	0.2	1.9	3.2
8/1/2016	5.2	6.0	0.8	1.8	12.0
9/1/2016	4.7	6.0	1.3	1.9	20.6
				TOTAL:	**134.2**

Step 2: Divide the Total Load Below Baseline by the number of samples collected during the compliance year:

134.2 / 12 = 11.183

Step 3: Multiply by 365 days/year, TN Delivery Ratio and 0.9:

11.183 x 365 x 0.7 x 0.9 = 2,571.53, round to **2,572 TN Credits**

G. Unanticipated Events

DEP may waive the collection of samples and/or the use of data for compliance assessment purposes where flooding or other natural disasters preclude the collection of quality data. Such waivers would be issued to specific facilities based on actual conditions in the field. If such waivers are granted, Credits may not be verified for the period of time covered by the waiver. Facilities will be instructed to use a "no discharge" code on their DMR.

In addition, where non-compliance with a Cap Load is the result of an unmet obligation of a contractual agreement for Credits resulting from failure of the pollutant reduction activity, the failure of the pollutant reduction activity was due to uncontrollable or unforeseeable circumstances, and the permittee provides timely notice to DEP, DEP may consider the factors contained in 25 Pa. Code 96.8(h)(5)(i), (ii), and (iii) to determine the appropriate resolution.

H. Adaptive Management

DEP will continue to use an adaptive management philosophy to guide decision-making for TMDL implementation. DEP may deviate from the guidelines stated herein where warranted to ensure that total aggregate loads remain at or below the WLAs prescribed by the TMDL. Where DEP deviates from these guidelines, it will be done in a systematic, centralized manner, and will be documented through the submission of status/milestone reports to EPA.